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## Family satisfaction with quality of care in the intensive care unit at Wardha in central India: A cross sectional study

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**ABSTRACT**

**Background:** Family member's views are crucial in assessing the quality of intensive care unit (ICU) care. This study had been planned to assess satisfaction of family members with the quality of healthcare provided in ICU, to look into potential follow-up needs of the patients' relatives and to evaluate contribution of each domain in the care providing facilities of ICU. **Method -** A validated template of questions (Hindi version of questionnaires which were used in the studies published previously) was distributed amongst the family members of patients who are admitted to hospital in the Medicine ICU of a tertiary care hospital at Jawaharlal Nehru Medical College, Wardha. The results were then analyzed statistically. **Results:** Out of 300 family members enrolled 67.7% were male. 27.7% responders were having literacy up to secondary education. 88% of the responders were overall satisfied with the empathetic behavior of the nurses on duty. 80.7% were satisfied that doctors duly cleared the doubts regarding the prognosis of the patient and were timely addressed on the progress in the treatment of the patient. The concluded results were found significantly associated  $p = 0.001$ . **Conclusion:** This study highlights about key role in assessing the satisfaction and the level of knowledge, attitude and practices of families of the patients in context of the degree of the health care provided within the Medicine ICU.

**Keywords:** Intensive Care Units, Personal satisfaction, anxiety and uncertainty, Family, interventions, Quality of healthcare

**1. INTRODUCTION**

The framework of the medical healthcare system is based on the desires of the recipients (patients and the relatives) along with the ability of this medical field to efficiently respond to the circumstances established (Wall et al., 2007). Constant efforts are being made to accomplish this particular objective and to provide a healthy and a quality efficient care to the patients and the relatives.

These principles have been upheld in the basic consideration setting in the medical healthcare system (Jensen et al., 2017; Stricker et al., 2009). Recently, studies exploring the arenas such as wellbeing of the patients and their fulfilment have gained significant place as quality markers, so as to improve and assess the results of care given by medical services (Van de Broek et al., 2015; Johansson et al., 2002). Today, with the help of increasing technological aid and the intellectual abilities of medical care, it has been observed that the patients and their relatives are more considerate towards the quality of the healthcare provided to them, during their intensive care unit stays (Meterko et al., 2004).

A few research articles are present that give an indication about how the interventions in the Intensive care units have affected both the patient and family outcomes respectively (Baker et al., 2000; Schaefer and Block, 2009). The ongoing continuous rises in the medical approach towards palliative healthcare of the patients and their relatives have substantially improved the level of contentment with the quality of healthcare provided to some extent (Dhande et al., 2020). Few clauses for estimating the levels of family fulfilment has been suggested, with respect to the basic consideration of experiences which are applied in randomized controlled preliminaries for Intensive care unit interventions (Scheunemann et al., 2011). Most salient among them, the Family Satisfaction in the ICU survey (FS-ICU) has settled the major neurocognitive characteristics Wall et al., (2007).

Majority of the patients hospitalized in the Intensive care units are basically unwell and are incapable to have a smooth conversation with and consequently, the perspectives and the experiences of the families become significantly noteworthy (Heyland and Tranmer, 2001). The Intensive care unit stations are mainly bound to treat the patients but regardless of the medical outcome, fulfilment of the essentially ailing patients and their families proves to be an equally important factor. According to the many published researches, the term “fulfilment” is subjected to the cultural view of satisfactory consideration (Dodek et al., 2004; Heyland et al., 2002).

In recent years, music has become more widely used as a clinical modality in the treatment of various diseases and in intensive care medicine around the world, according to studies; it could be a way for aiming towards improving the quality of healthcare provided. On the other hand previous research has come up short to elucidate the wholesome sets of the hospital experience dependent on patients' encounters, their wellbeing statuses, and desires from the medical services by the general public everywhere (Dodek et al., 2004; Heyland et al., 2002). Studies with respect to the Intensive care units' experiences of relatives, in Asia are limited, although many facts have been reviewed to study morbidity factors and the increased mortality rates along with the quality of care, it is less reported especially in India, in this respect leading to inconclusive results (Henrich et al., 2012; Jawaharani et al., 2020). There is a need to undertake this topic for study purpose, considering the needs of an Indian setting to assemble a group of domains which would help to assess the satisfaction level of the patient's family during their stay at the Intensive care unit.

## 2. MATERIALS AND METHODS

This cross-sectional study was carried out on the sample population consisting of the relatives of patients who are being admitted in the intensive care units of medicine department of Jawaharlal Nehru Medical College, Wardha, Maharashtra, from December 2021-February 2022. The study was conducted after acquiring the approval from the institutional ethical committee IEC No- DMIMS (DU)/IEC/2022/690.

The study was conducted with the help of offline questionnaires translated into the local language for the convenience of the local population. Relatives of the patients (admitted in the Intensive Care Unit for 24 hours or more) were enrolled in this study regardless of the Intensive Care Unit outcome (successfully treated or failure to it). Total 300 relatives were enrolled between the age groups of 18 –65 years were included in this study. To maintain versatility clause stating the following condition would be made applicable: Up to three relatives from each patient could register. Family members would be denoted as the person who were very close to the patient (as identified by the patient), including brothers, sisters, partner, children, parents and friends. If more than three family members wish to participate, the participants were chosen by the family members based on who had spent the most time in the ICU. Illiterate participants were provided with all the details regarding this survey and helped in every way needed, so that they could fill in the questionnaires correctly. Family members less than 18 years of age and those having cognitive impairment with psychological behavioral disorders were excluded from the study.

Manual consent was taken from all the participants before they were asked to fill the questionnaire. The questionnaire was translated in the local Hindi language, (formed by combining the euroFS-ICU and short version of the FS-ICU questionnaire) (Wall et al., 2007). The translated version of this questionnaire was well validated by a linguistic expert of the institute and an expert from an outside institution. In order to check the creditability of the said translated questionnaire, it was first being tested amongst a sample size of 15 responders. This translated version of the questionnaire consisted of twenty –six specific questions which helped in

assessing the level of participant's satisfaction with the quality of care provided in the intensive care units. Also, the questions elaborating the socio-demographic status of the responders were included in the same.

1. What is the age of the family member? [आप कितने साल के हैं (आपकी उम्र) ?]
2. How much have you studied? (आप कहा तक शिक्षित हैं ?)
3. How are you related to patient? (आप मरीज से कैसे संबंधित हैं ?)
4. Why is patient admitted in the ICU? (आईसीयू में आपके मरीज को क्यों भर्ती किया गया है ?)
5. For how many days the patient is admitted in the ICU? (आईसीयू में मरीज को कितने दिनों के लिए भर्ती किया गया है ?)
6. Were you surprised when the patient was admitted in the ICU? (क्या आईसीयू में के प्रवेश ने आपको आश्चर्यचकित किया था ?) YES/ NO (हां)/(नहीं)
7. When the patient was shifted to ICU, was ICU staff available for help? (मरीज के आईसीयू में प्रथम प्रवेश के दौरान, क्या आपकी सहायता के लिए आईसीयू स्टाफ मौजूद था ?) YES/ NO (हां)/(नहीं)
8. Were you given information about, how you can help the patient in his recovery? (क्या आपको इस बात की जानकारी मिली कि आप मरीज की देखभाल में कैसे सहायता कर सकते हैं ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
9. Did the doctor listen to you carefully? (क्या डॉक्टरों ने आपकी बात ध्यान से सुनी थी ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
10. Did the ICU staff take you seriously? (क्या आईसीयू स्टाफ ने आपको गंभीरता से लिया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
11. Did the ICU staff take care of the admitted patient with empathy? (क्या आपके मरीज की देखभाल, अच्छा शिष्टाचार दर्शाते हुए की गई थी ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
12. Did the nurse give you an opportunity to help in taking care of the patient? (क्या नर्सों ने आपको मरीज की देखभाल करने में सहायता का अवसर दिया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
13. Do you think the visiting hours given were sufficient? (क्या विजिटिंग घंटे आपकी आवश्यकता के अनुरूप थे ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
14. Did you get an opportunity to stand beside the patient when doctor was on round? (डॉक्टर के राउंड के वक्त क्या आपको मरीज के पास उपस्थित होने का अवसर था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
15. Did you get adequate time to stay with the patient in ICU? (क्या आपको, आईसीयू में मरीज के साथ वक्त बिताने का पर्याप्त अवसर दिया गया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
16. To solve your problems, was the ICU staff helpful to you? (क्या आपके सवालों के जवाब देने के लिए आईसीयू स्टाफ सहायक था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
17. What was happening with your patient and why, was it made clear to you? (आपके मरीज के साथ क्या हो रहा था और क्यों इसका स्पष्टीकरण आपको दिया गया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
18. Was the information given to you with honesty, about the condition of your patient? (क्या आपके मरीज की स्थिति की जानकारी आपको ईमानदारी से दी गई थी ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
19. Was the information given to you by nurse about the condition of patient same as information given by the doctor? (क्या आपके मरीज की स्थिति के बारे में आपको डॉक्टर, नर्स इन सबसे समान और सही जानकारी प्राप्त हुई थी ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
20. The information given to you about the condition of patient by the doctor, was it good? (क्या मरीज की स्थिति के बारे में डॉक्टर से प्राप्त हुई जानकारी की गणवत्ता अच्छी थी ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
21. Were you involved while taking important decisions? (प्रमुख निर्णय लेने की प्रक्रिया में आपको अच्छे से शामिल किया गया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
22. When big decisions were taken did the ICU staff support you? (जब बड़े फैसले लिए गए, क्या आईसीयू स्टाफ ने आपको समर्थन दिया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
23. Did the ICU staff give you emotional support? (क्या आईसीयू स्टाफ ने आपको भावनात्मक रूप से समर्थन दिया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
24. When big decisions were taken, were there any solutions given regarding your concerns? (जब बड़े फैसले लेने थे, क्या आपको पर्याप्त समय देकर, आपकी चिंताओं का सही से निवारण किया गया था ?) Always/Sometimes/Never (हमेशा/कभी कबार/कभी नहीं)
25. Was Mechanical Ventilator used for breathing of patient? (क्या मरीज को सांस लेने के लिए मैकेनिकल वेंटिलेटर की जरूरत पड़ी थी ?) YES/ NO (हां)/(नहीं)
26. Will you recommend this ICU for other patients who need to be admitted? (क्या आप इस आईसीयू को अन्य परिवारों के सदस्यों को सुझाएंगे, जिन्हें आईसीयू में भर्ती होने की आवश्यकता हो ?) YES/ NO (हां)/(नहीं)

Figure 1 depicting the Questionnaire

The basic demographic questions were having factors such as age, address, date of hospital admission, participant's residential address, educational status, relation of the participant with the patient admitted and the name and address of the hospital. Further questions were added to assess the knowledge, attitude and practices of responders towards the working of an intensive care unit. Also, the degree of satisfaction along with the quality of healthcare provided in the Intensive care units was analyzed by the appropriate interventional questions as shown in Figure 1.

### Statistical analysis

For the process of data collection, a convenient sampling method was used, which was then presented in the form of frequencies and percentages. Illustrative statistics will be presented for all the categories based upon the responses. The p-value  $p < 0.05$  was regarded as statistically significant. The Statistical Package for Social Sciences (SPSS 24) was used for the data analysis.

## 3. RESULTS

Out of 300 family members enrolled 203 (67.7%) were male. Age and sex were found to be significantly associated with the attributes studied ( $p < 0.05$ ). 38.6% responders were between the ages of 31- 45 years. Other demographic representation of the responders like qualifications and reasons of ICU admission are shown in table 1.

**Table 1** Demographic representation of the responders

Characteristics	Sub-group	Overall (N)	Percentage
Sex of the responder	Female	97	32.3%
	Male	203	67.7%
Age of the responder	18-30 yrs	59	19.6%
	31-45 yrs	116	38.6%
	46-60 yrs	109	36.3%
	60 – 65 yrs	16	5.3%
Qualification of the responder	Primary education	72	24%
	Secondary education	83	27.7%
	Higher secondary education	48	16%
	Graduate	28	9.3%
	Illiterate	69	23%
Medical reasons for ICU admission	Renal	37	12.3%
	Respiratory	77	25.6%
	Central nervous	29	9.6%
	Cardiac	91	30.3%
	Cancer	4	1.3%
	Accidents	62	20.6%
Days of ICU admission	1-5 days	73	24.3%
	6-10	118	39.3%
	11-20	86	28.7%
	>20	23	7.7%
Probability value ('p' value)	0.001 (<0.05)		

Assessments were also done about the perspective of the family members towards the Intensive care unit admission of the patients. 261 responders out of 300 (87%) were surprised when the patient was admitted to the Medicine Intensive Care Units. When asked about the Family members about the allotted time for the visiting hours, 43 (14.3%) were not satisfied with the allotted time. These responses are being tabulated in the Table 2. We also assessed the factors analyzing the satisfaction of the family members towards the quality of the care provided by the staff in the Intensive care units. 87.3% (n=262) were of the opinion that

they were duly informed about the further procedures, when the patient was admitted in the Intensive Care Units. 31% of the members did not feel included in the patient care and wanted the staff to be more co-operative in the matter. 88% of the responders were overall satisfied with the empathetic behavior of the nurses towards the family members and the admitted patients. The results have been depicted in table 3 and Figure 2, 3 and 4.

**Table 2** Perspectives of the family members towards patients' admission in the ICU

Families' perceptions	Responses	Overall (n)	Percentages
Surprised on the ICU admission	Yes	261	87
	No	39	13
Satisfaction about the Visiting hours	Always	257	85.7
	Sometimes	43	14.3
Practices when Doctor is on round	Always	95	31.7
	Sometimes	29	9.7
	Never	176	58.6
Adequate time To stay in the ICU	Always	244	81.3
	Sometimes	47	15.7
	Never	9	3
Mechanical Ventilator usage	Yes	225	75
	No	75	25
Probability value ('p' value)	0.001 (<0.05)		

**Table 3** Quality of care provided

Perception towards care	Responses	Overall (n)	Percentage
Assisting by the staff Upon ICU admission	Yes	262	87.3
	No	38	12.7
Were you informed Regarding taking Care of patient	Always	207	69
	Sometimes	93	31
Were your opinions Taken seriously by The staff	Always	234	78
	Sometimes	65	21.6
	Never	1	0.04
Did the Nurses tell You how to help the Patients.	Always	264	88
	Sometimes	36	12
Did the staff give you emotional Support	Always	190	63.3
	Sometimes	71	23.7
	Never	39	13
Probability value ('p' value)	0.001 (<0.05)		

Furthermore, regarding the behavior of the ICU staff, 242 (80.7%) were satisfied that the consulting and the attending doctors duly cleared the doubts they had regarding the prognosis of the patient and were timely addressed on the progress in the treatment of the patient. 86.3% responders were of the opinion that the information provided to them was sincere and up to the mark as depicted in table 4.

**Table 4** Behavior of the ICU staff

Perception towards behavior	Responses	Overall (n)	Percentages
Were your views Duly addressed by The doctor	Always	242	80.7
	Sometimes	58	19.3

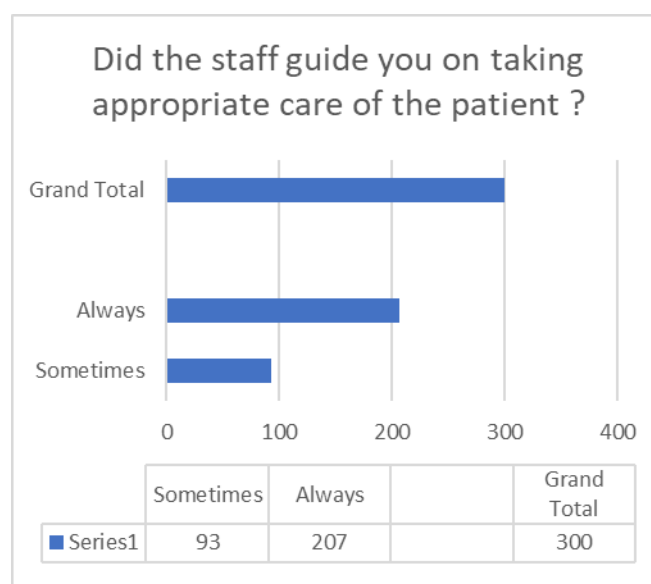


Were you given Opportunity to Help the patient to Recover	Always	245	81.7
	Sometimes	53	17.7
	Never	2	0.6
Was the ICU staff Helpful in clearing Your queries.	Always	213	71
	Sometimes	74	24.7
	Never	13	4.3
Were you timely Updated about The patient's progression	Always	227	75.7
	Sometimes	73	24.3
Was the information Provided to you Sincerely	Always	245	81.7
	Sometimes	55	18.3
Was the information Provided to you up to the mark	Always	259	86.3
	Sometimes	41	13.7
Probability value ('p' value)	0.001 (<0.05)		

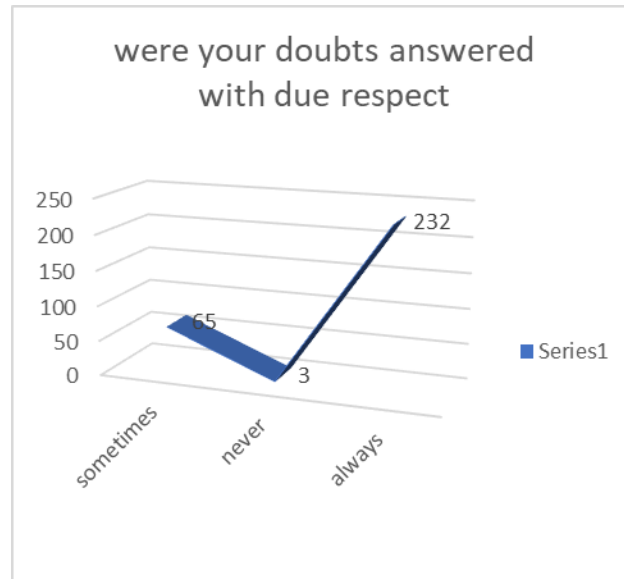
Assessing the level of satisfaction in the responders regarding the quality of care provided in the ICU setting it was conferred that, 76% of the responders felt that were included while crucial decisions were to be taken regarding their patient's treatment. Overall, 95 % of the family members were satisfied by the quality of care provided in the ICU and were of the will to recommend the particular setting to anyone needful shown in Table 5. The concluded results were found significantly associated ( $p = 0.001$ ).

**Table 5** Assessing the quality of care and Satisfaction

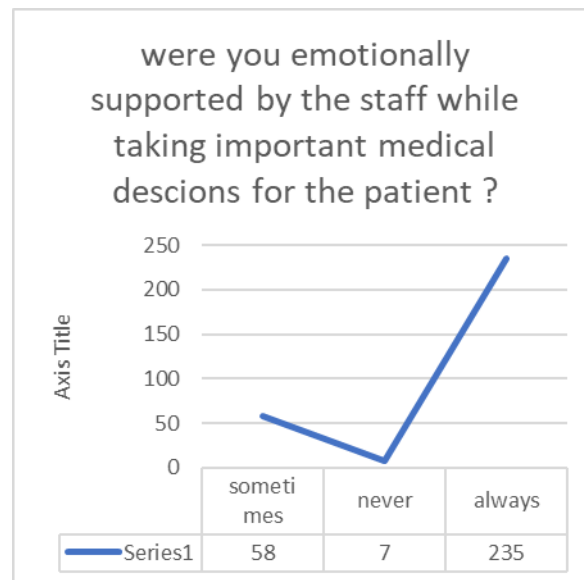
Satisfaction	Responses	Overall (n)	Percentages
Were you Involved while Taking Important decisions regarding the patient's prognosis.	Always	228	76
	Sometimes	67	21.3
	Never	5	1.7
Will you Recommend this ICU to others?	Yes	283	94.3
	No	17	5.7
Are you Satisfied with the quality of care provided in this ICU?	Yes	289	96.3
	No	11	3.4
Probability value ('p' value)	0.001 (<0.05)		



**Figure 2** Depicting satisfactions of the relatives with the ICU staff



**Figure 3** Showing satisfaction of relatives with the hospital staff answering their questions



**Figure 4** Depicting empathy of the staff with patient's relatives

#### 4. DISCUSSION

This study was based on a large sample of family members of patients treated in the medicine ICUs of Rural post graduate teaching Hospital at Wardha district of central India. According to our knowledge this study was probably of the first of its type to take place in India. The assessment of the patients' families' views regarding the quality of the care given by the medical staff in the ICU is of outmost important to analyse and improve to layout a proper idea about the provided services. According to the studies conducted in Danish setting, the areas with higher importance were found out to be, concern and caring toward patient, emotional support for the family and inclusion in decision making process, ICU atmosphere, opportunities for family members to be present at the bedside and ease of getting information. Similar levels of domains have been found in a number of ICU family satisfaction studies (Schwarzkopf et al., 2013; Sarode et al., 2015).

Qualitative study conducted in the United Kingdom, showed that the overall opportunities for further improving family satisfaction are by quality improvement. There were only a few Asian studies involving the FS-ICU. Lam et al., (2015) used the original FS-ICU to evaluate family satisfaction in a mixed medical-surgical ICU in Hong Kong. Dailsay-Gallardo and Perez (2012) researched satisfaction with end-of-life care for dying patients in a general adult ICU in the Philippines.

Referring to the results concluded by the various studies, the areas with higher importance and which bothered to the relatives were found out to be, concern shown and caring toward patient, emotional support offered for the family members and incorporation of the relatives in the decision - making process, Intensive care unit setting, possibilities for family members to be present at the bedside and ease of getting information.

### Strength and Limitation

The Hindi version of the questionnaire has not been validated and tested for reliability being the main limitation of the study. Major strength of the study was adequate sample size and only study in Indian setting with Hindi version.

## 5. CONCLUSION

The quality of care provided in an ICU setting is of outmost importance considering the needs of the patients admitted and their family members. Looking into the results obtained from this study, measures should necessarily be undertaken to involve the family members more into the patient care, by increasing the visiting hours. Overall, the emotional support is being appropriately provided to the members and the queries are being addressed empathically. Extensive research should be carried out in this arena, which would further help the medical fraternity to increase the quality of care that a certain ICU provides.

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This study has not received any external funding.

### Conflicts of interest

The authors declare that there are no conflicts of interests.

### Data and materials availability

All data associated with this study are present in the paper.

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